Better City, Better Life

Solid Waste Management in Shanghai

September, 2012
City Profile

• Eastern coastal city, situated at Yangtze River Delta
• largest economic center, trade port and industrial city in China.
• Provincial-level municipality, consisting of 16 districts and 1 county
• Area: 6340 km²; residents: over 23 million
• GDP: 295.3 billion USD ; Per capita GDP: 12,780 USD in 2011
Waste Generation in Shanghai

- Generation of Industrial Solid Waste from 2003 to 2011
- Generation of Municipal Solid Waste from 2003 to 2011

In 2011
- ISW (IHW included): 24.42 mil. Tons (Smelting slag, coal ash, desulfurization gypsum)
- MSW: 7.04 mil. Tons
- IHW: 0.56 mil. tons
- Medical Waste: 23,000 tons
Principles of Solid Waste Management

- Cleaner production
- Waste minimization planning
- Phase-out of heavily polluting factories
- Upgrading of industries

Source Reduction

The basic principles for the solid waste management of China

Regulate the design, construction, and operation of solid waste management system

Favorable policies & incentives
- Circular Economy
- Sorting of MSW
Current Status of Waste Disposal in Shanghai

- In 2011, safe disposal rate of MSW is 87.6%.
  MSW Safe Disposal

- MSW segregation pilot programs have covered 0.58 mil. households.
- More MSW infrastructure facilities are under designing and construction.
• In 2011, ISW (IHW included) has been 100% disposed

ISW Disposal

• In 2011, medical waste has been 100% safely disposed (incineration).
- Entire-process environmental management system on HW management has been established and improved;

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<th>HW management plan</th>
<th>Joint conference system on HW management &amp; supervision among Yangtze River Delta</th>
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<td>HW transferring management information system</td>
<td>Communication &amp; cooperation mechanism between EPB and health department established on MW management</td>
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<td>Monitoring &amp; supervision on licensed HW disposal enterprises</td>
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- Infrastructure for HW disposal: 45 professional enterprises with the capability of 500,000 tons per year, covering physical & chemical treatment, comprehensive utilization, landfill and incineration.

- Collection and transportation system for medical waste covers more than 2000 hospitals and health institutions citywide

- 70 MW transportation vehicles and nearly 9000 MW transfer containers.
• E-waste management

• EPR system established since 2009
• 8 licensed professional enterprises with the dismantling capability of 100,000 tons
• Recording and reporting institution, inspection and monitoring institution established.
• Trade-in policy applied on TV, washing machine, refrigerator, air-conditioner and PC since 2009
• From 2009 to 2011, 8.85 mil. of waste home appliances and PC have been recovered and dismantled.
Challenges on Solid Waste Management

- Continuing growth of industrial solid waste
  - sludge from sewage water plant
  - desulfurization gypsum
  - denitrification catalyst
  - coal ash
  - fly-ash sourced from MSW incineration

- Environmental risk prevention & control in the process of HW collection and transportation
- Capability and layout of treatment & disposal facilities need to be improved and optimized
- Capacity building on whole-process monitoring & supervision, risk prevention & control need to be strengthened
- MSW segregation and recycling need to be greatly pushed forward
Outcome from Shanghai EXPO on Solid Waste Management

- Waste minimization at source: recyclable construction materials, potable water supply system (reducing 5460 tons of plastic), use of electronic information technology
- Waste segregation and recycling: Two-Bin Waste Segregation-at-source system; kitchen waste, kitchen oil and non-recyclable waste were treated separately.
- Pneumatic Conveyance System (PCS) for solid waste transportation
Building Shanghai into a zero waste society in the future

- Waste minimization & segregation at source (MSW safe disposal rate aims to reach 95% by 2015);
- Professional transportation system for hazardous waste
- Improvement of solid waste treatment & disposal capability
- Enhancement of management and supervision
- Regulations & Fund
Thanks for your attention!